STATE OF TENNESSEE

DEPARTMENT OF EDUCATION

Information Systems Plan
Fiscal Years
Year 1 - 2002-2003
Year 2 - 2003-2004
Year 3 - 2004-2005

Approved_____   _____
          Date   **Faye P. Taylor**
                                                    Commissioner of Education

                                                    _____

                                                    Jeff Roberts
                                                    Deputy Commissioner, Chairman
                                                    Management Advisory Committee

Department of Education

Information Systems Plan
2002-2005

Table of Contents

Chapter 1

Executive Summary

Business Strategy

The Department of Education is charged with the task of helping Tennessee's 138 Local Education Agencies create a world class education system while at the same time meeting the Executive Branch's challenge to create a more effective, efficient, and focused agency. To meet these challenges, four key goals have been established by the Department. In addition to the goal of creating a responsible and accountable agency, the Department's strategic plan addresses meeting performance standards defined by the State Board of Education, ensures all elementary children can read and that graduating students are prepared to succeed in post-secondary study, workforce placement, and lifelong learning. Objectives that focus on using technology to improve operations as well as instruction, on ensuring continuous improvement of the Department and of schools, and on providing a healthy and safe environment for both agency employees and school students are themes that cross these four goals.

The performance measures for the Department of Education's Strategic Plan are directly linked to the State Board of Education's *Master Plan* and to the State Board's Performance Model which includes a standard set of data for every Local Education Agency compared with statewide data. The *2001 Report Card*, an annual accountability document produced by the Department of Education, provides an overview of the major findings and initiatives that form the basis for this strategic plan. Among these are the following:

> **Creating a World-class Education System** - The Tennessee Department of Education continues implementing the landmark education improvement program that makes Tennessee's academic standards among the highest in the nation. This program gives more control over public education to local communities, mandates accountability for schools and Local Education Agencies and completely overhauls the method of distributing state education funds. All of the components of the Education Improvement Act work together to improve education and ensure accountability.

> **Connecting Tennessee Schools** – The ConnecTEN network connects all of Tennessee's K-12 public schools to the Internet. There are currently approximately 220,000 Internet connected computers for use by Tennessee's 900,000 K-12 students. With the increase in the availability of the Internet in the classroom, the focus of the Department has moved toward improving classroom instruction through the use of the Internet. In addition, the Internet provides a new mechanism for delivering teacher training to ensure that qualified teachers are in the classroom.

> **No Child Left Behind** – The federal Elementary and Secondary Education Act of 2002, known as "No Child Left Behind", defines performance requirements for all K-12 public schools. Many of these performance requirements are already in place in Tennessee. The Act also mandates qualifications for "highly-qualified" teachers in the classroom. During the upcoming year, the Department will be focused on determining the processes that need to be implemented in order to ensure compliance with this federal legislation.

Information Technology Strategy

During the current year, the Department is working to incorporate current and emerging technologies into the operation of the Department of Education. These issues include:

- Develop and implement systems that allow for aggregating and disaggregating student and teacher data to meet state and federal reporting requirements.
- Recognize the Local Education Agencies as the major client base and the need to facilitate communications with them.
- Recognize the Internet, accessed through the ConnecTEN network by our clients, as our optimum means of communication.
- Improve the level of security for Internet based communications in a global world.
- Upgrade or replace outdated technology on a three-year cycle.

Agency Information Technology Achievements

Information systems are always works in progress. The Department is particularly proud of the progress made on the following projects:
- Teacher Certification Information was made available to the public over the Internet.
- In partnership with the Tennessee Higher Education Commission, completed cohort two of the Title II web application for all Institutes of Higher Education to electronically report completers of educational programs as required by the US Department of Education.
- Allowed Local Education Agencies to report their Roster of Graduates electronically through secured access over the Internet.
- Allowed Local Education Agencies to submit Title I and Title II reporting requirements through secured access over the Internet.
- Allowed School Improvement Plan reviews by Department staff to be entered through secured access over the Internet.
- Completed the parallel year for EIS with 110 Districts transmitting data over the Internet.
- Provided Local Education Agencies with access to Teachers-Teachers.com to assist in the recruitment of Special Education teachers nationwide.
- Provided Local Education Agencies with the Teach in Tennessee web site to assist in recruitment of Tennessee teachers.
- The Commissioner distributed, via email, a Weekly Message containing current topics of interest to all superintendents of schools, the administration, and education committee members in the legislature.

Major Information Resources Management Issues

- Available funding to acquire the resources needed to move forward with the development of technology projects.
- Highly skilled staff members for the development and implementation of web-based applications needed to provide electronic delivery of services to the Local Education Agencies (LEA's).

Information Technology Disaster Recovery Assessment and Goals

The Department follows the OIR recommended standards for backup of applications and data.
We do not currently have documented recovery procedures for applications.
Our goals for the upcoming year are to:
- Document backup and recovery procedures for all Fatal and Critical applications.
- Test backup and recovery procedures for an application.

Information Systems Plan Developers

Lisa Cothron, Executive Director, Technology Infrastructure & Systems Support

Information System Plan Approvers
Management Advisory Committee

Faye P. Taylor, Commissioner
Jeff Roberts, Deputy Commissioner
Joe Fisher, Assistant Commissioner, Special Education
Becky Kent, Assistant Commissioner, Vocational Education
Steve Minton, Assistant Commissioner, Curriculum and Instruction

Management Advisory Committee Staff

John Sharp, Executive Director, Budget
Lisa Cothron, Executive Director, Technology Infrastructure & Systems Support

Chapter 2

STRATEGIC PLAN

The 2002-2003 Strategic Plan for the Department of Education reflects changes in the Executive Strategic Plan which focus on three major areas (K-12) for excellence in education: reading, accountability, and quality graduates. Embedded within these areas are the issues of services for special populations, teacher attrition rates, and federal compliance for student assessment. In addition, the plan addresses the area of "Accountability in Government" by defining the efforts of the Department to become more responsive to the needs of the various clients it serves. The plan has been fine-tuned from previous drafts to focus on the major thrust of the Department rather than to provide a snapshot of all Department activities.

AGENCY DESCRIPTION

The Department of Education has three primary functions: to provide educational leadership to schools and school systems, to distribute funds to local school systems, and to monitor the effectiveness of both fiscal operations and educational programs. The department is also responsible for four state special schools: Tennessee School for the Blind, Tennessee School for the Deaf, West Tennessee School for the Deaf, and Alvin York Institute. The commissioner of education is the chief state school officer who oversees three major divisions (Curriculum and Instruction, Vocational Education, and Special Education) along with specialized units in local finance, accounts, research, technology, assessment and accountability. The operations of the department were organized this year around accountability. This past fall, the Department identified 98 schools as not meeting the goals established in the State Board's Performance Model. The Department's website (www.state.tn.us/education) provides information about each division and work unit as well as general departmental information.

VISION

To be a state where all schools are safe environments promoting
high scholastic achievement and the development of productive citizens and
lifelong learners

MISSION

To advance student success by creating and supporting a dynamic,
world-class system of teaching and learning for all Tennesseans

KEY GOALS

GOAL 1:   Ensure that all Tennessee children can read

GOAL 2:   Prepare educators to help students meet high standards, as defined by the State
            Board performance model.

GOAL 3:   Graduate students prepared to succeed

GOAL 4:   Promote responsible and accountable government

Goal 1: Ensure that all Tennessee children can read
Targets for school year 2001-2002

♦ Offer pre-kindergarten opportunities for all four-year-old children
Expand service to over 7,000 educationally at-risk children
Maintain programs serving at-risk four-year-olds
Expand the number of Family Resource Centers to have at least one in every county
Develop a statewide family literacy program

- Create an infrastructure to improve reading instruction at all grade levels
  Place 100 reading teachers in schools with low reading performance in grades K-3
  Establish an Office of Reading and Literacy within the department
  Issue revised content and performance standards for K-8 reading
  Provide LEAs with additional support for students with limited English proficiency
- Increase the number of teachers receiving training in reading instruction
  Contract with one higher education institution in each of the three grand divisions to coordinate training for teachers and to serve as centers of research in reading
  Train vocational teachers in reading strategies and develop required reading lists for vocational programs
  Focus departmental resources on training activities in reading
- Develop a comprehensive reading initiative based on proven classroom success
  Train 100 reading teachers assigned to schools with low reading performance.
  Identify developmentally appropriate diagnostic materials for school use and provide materials to schools with low reading performance in grades K-3

Goal 2: Prepare educators to help students meet high standards, as defined by the State Board of Education performance model
Targets for school year 2001-2002
- Utilize technological advancements to offer additional advanced placement courses
  Expand bandwidth at schools to allow courses to be offered on-line
  Identify first courses to offer - Pilot during 2001-2002 school year
- Hold schools and school systems accountable for student success
  Issue individual school and school system report cards
  Implement Algebra I and Biology exams for entering ninth-grade students
  Develop pilot "End of Program" exams for technical path students for future accountability purposes in vocational-technical programs
  Put teeth into required school improvement plans by linking them to school report cards
  Implement school health and school nutrition programs that support student learning
  Enhance student assessment at benchmark grades (3, 5, 8) and define performance levels for accountability
- Identify and assist low-performing schools and/or school systems
  Submit list of schools to be placed on notice to State Board of Education by September 30
- Provide technical assistance to low performing schools/systems to implement effective intervention/remediation strategies.
  Place Exemplary Educators in schools placed on notice
  Focus departmental resources – state and federal - on support and assistance

- Reduce teacher turnover.
  Implement a mentoring program for up to one-half of new teachers in school year 2001-2002
  Implement federal Title II grant to improve teacher quality
- Provide incentives for career teachers to become nationally certified.
  Fund registration fees for up to 100 teachers
  Supplement nationally board certified teachers' salaries ($2500 annually)
- Provide incentives to attract the best and brightest graduates to the teaching profession

Implement a Teaching Scholars Program for college juniors and seniors going into the field of education

♦ Provide comprehensive professional development to teachers in areas of high-stakes accountability
Provide catch-up training to seventh and eighth grade math and science teachers to the degree possible within existing revenues.

Goal 3: Graduate students prepared to succeed

♦ Increase high school graduation rates to 90%
Provide grants to LEAs to fund guidance to LEAs on intervention activities for seventh, eighth, and ninth grade students at risk of failing to meet graduation requirements
Encourage use of extended contract time to support these activities

♦ Strengthen both the university and technical paths to increase the number of students successfully transitioning into higher education or the new workforce
Develop pilot "End of Program" exams for technical path students for possible accountability purposes in vocational-technical programs
Encourage "High Schools That Work" sites

♦ Increase the number of students scoring 19 or above on the ACT test
Implement statewide end of course tests in courses that develop skills assessed by the ACT – Algebra I and Biology I in school year 2001-2002

♦ Increase the number of occupational competencies mastered by technical path students
Require all school systems receiving Perkins funds to connect all vocational classrooms to the Internet before spending money on equipment to enable students, using virtual learning, to develop occupational competencies regardless of the limited equipment available in the classroom.

♦ Promote cooperation among state agencies to:
Place programs in schools to prepare students to be productive citizens
Increase the number of Character Education programs in schools
Target programs for at-risk children to prevent dropouts
Increase the number of students served by the Governor's Study Partner program
Support the maintenance of safe and disciplined learning environments
Train 2000 teachers in 100 school systems under the auspices of the Tennessee School Safety Center

Goal 4: Promote responsible and accountable government
Targets for 2000-2001
4.1 Make state government customer focused

♦ Allow citizens to conduct business with the state anytime (24X7X365)
Implement the Education Information System, enabling school systems to report data to the state at any time.

♦ Utilize the TGEI Speaker's Bureau to promote state and department services and solicit citizen feedback
Inform all unit directors of availability of Bureau services and encourage their use.

4.2 Continue to cut government waste and expense

- Validate essential/needed services
  Realign department staff and redefine vacant positions to support strategic plan goals.
- All agencies will focus on a cost avoidance initiative in conducting their duties and responsibilities
  Continue to locate meetings and conferences at economically advantageous locations.
- Emphasize fraud detection in those programs and areas vulnerable to fraud
  Address any weaknesses identified through management study conducted under the Financial Integrity Act.

4.3 Maximize existing revenue due and available to the state

- All agencies will take cost-effective steps to improve procedures, processes and automated systems to maximize receipt and processing of revenue sources
  DOE revenue sources are primarily state and federal appropriations
- Agencies receiving federal funding will review the funding arrangement and identify methodology problems or penalty issues to avoid any loss of federal funding and secure maximum benefit to the state
  Continue to identify ways to expedite draw-down of federal funds.
- Agencies will review licensing and agency fees against a cost recovery measure for the purpose of identifying inadequate fees and inflationary rates
  DOE collects no fees.

4.4 Reduce the cost of doing business

- Develop, deliver and implement an Activity Based Costing model for all Executive Branch agencies by 2002. All agencies will implement 1-2 ABC pilot projects
  DOE collects no fees.
- Move government transactions to the Portal (i.e. Child Care Center, state park reservations, TennCare eligibility verification)
  Develop job clearinghouse for teachers for possible connection to the Portal.

4.5 Improve processes through the use of technology and innovation

- Ensure new and existing systems are web-based (SEIS, TIS, STARS, TOPS, etc.)
  Implement the web-based Education Information System
- Reduce cost, time, and steps to complete government transactions
  Explore ways to enable grant applications to be completed on-line
  Continue to place grant application forms on-line to reduce paper and mailing expense

Measures of Success:

- Percent of third graders reading at or above the proficient standard
- Student performance in all subject areas assessed
- High school graduation/dropout rates
- Percent of students scoring 19 or above on the ACT
- Percent of technology projects funded/implemented

Chapter 3

Information Technology Strategy

The Department of Education, through strategic planning, has refocused its business strategy. The result is a mission statement, which provides the center around which all strategies revolve:

The mission of the Department of Education is to advance student success by creating and supporting a dynamic, world-class system of teaching and learning for all Tennesseans.

Analysis of the Business Strategy

The Department's business strategy is supported by fostering the use of technology as a tool for improving the efficiency and effectiveness of the State Department of Education. This improvement will include the following:

- Redesign Legacy systems to meet business requirements and functions utilizing current State standard technologies that are consistent with the Department of Education's standard technical infrastructure.
- Assist low performing schools with integration of technology into instructional environment.
- Maintain a secure technical environment for fulfilling the Department's goals
- Use the connectivity of the Internet to increase the knowledge resources of students and teachers, and make improvements to the administrative effectiveness and efficiency of the Department.
- Implement state and federal legislative mandates and exchange information with constituents.
- Improve communication among State Department of Education, the Local Education Agencies, the legislature and the public by incorporating representatives from these groups into the Department's planning and development processes.
- Expand internal communications to include legislative updates, and the State Board of Education and State Department of Education policy changes.
- Maintain a three-year cycle for the replacement of computers, with sufficient staff for technical support and training, to improve the State Department of Education efficiency and services.

Given the responsibilities of the Department to collect, analyze, report and exchange information from Local Education Agencies and other sources, and the fact that staff of different program areas use many of the same sources of information, the Department must create a seamless information system. The Department's technology staff will continually analyze staff needs and available technologies to create the best match of resources to functions. As new systems are created and old systems updated, technology staff will work to ensure that all systems are well integrated.

Analysis of the State of Tennessee Information Technology Strategy

The goal of Tennessee State government to provide citizens with accessible and accurate information is being met by the Department of Education through the publishing on information on the Web. The information available on the Department's web site includes, but is not limited to, School District and School demographic data; School District and School Report Cards; student test data; and teacher licensing data. In addition, the Department has many web sites that allow Local Education Agencies to meet State reporting requirements through the Internet.

Analysis of New Technology Impact

With Internet connectivity in place, the Department is using web-based applications to dramatically improve communication and information exchange with Local Education Agencies, other entities and the general public. General correspondence with Tennessee's 138 Local Education Agencies will utilize the ConnecTEN network where possible. Web pages allow school and Local Education Agency personnel to quickly link to information relevant to their areas of responsibility. Distributing education tools and professional development opportunities to larger groups of educators becomes more and more cost-effective with the expansion of the ConnecTEN Network.

We are improving both internal connections and curriculum integration of the Internet by focusing on the use of technology to improve classroom instruction and student performance. The implementation of new technology must fit with the Department's goals of compatibility and ease of use and maintenance.

Assessment of the Current Environment

The executive staff is supportive of efforts to identify and apply new technologies. The Internet has given the Department a powerful connectivity tool to address current concerns. This tool makes it possible for the Department to respond to goals as stated in the Department Strategic Plan. Communication with Local Education Agencies is now being accomplished electronically through the use of List-serves and web pages. Teachers and students have access to an immense amount of information through the Internet. The Internet has given the Department additional capabilities by increasing the use of technology to communicate, assist in decision support on programs, and give the Department additional capabilities in the area of teacher training.

It is this use of the Internet that must drive all redesign work in the department. The Legacy system for Teacher Certification is an example of this redesign activity. The clientele for these systems are moving rapidly to web-based access away from telephone and written communication.

❑ **Agency Information Technology Achievements**

Information systems are always works in progress. The Department is particularly proud of the progress made on these highly significant achievements:

- Teacher Certification Information was made available to the public over the Internet.

- In partnership with the Tennessee Higher Education Commission, completed cohort two of the Title II web application for all Institutes of Higher Education to electronically report completers of educational programs as required by the US Department of Education.
- Allowed Local Education Agencies to report their Roster of Graduates electronically through secured access over the Internet.
- Allowed Local Education Agencies to submit Title I and Title II reporting requirements through secured access over the Internet.
- Allowed School Improvement Plan reviews by Department staff to be entered through secured access over the Internet.
- Completed the parallel year for EIS with 110 Districts transmitting data over the Internet.
- Provided Local Education Agencies with access to Teachers-Teachers.com to assist in the recruitment of Special Education teachers.
- Provided Local Education Agencies with the Teach in Tennessee web site to assist in recruitment of Tennessee teachers.
- The Commissioner distributed, via email, a Weekly Message containing current topics of interest to all Superintendents of Schools.

.

❑ **Management Advisory Committee**

The Management Advisory Committee (MAC) is composed of the Commissioner of Education's Executive Leadership Team which includes the Deputy Commissioner, the Assistant Commissioner of Curriculum and Instruction, Assistant Commissioner of Special Education, and Assistant Commissioner of Vocational Education

This committee, composed of program policy leaders, is responsible for the approval of the Department's Information Systems Plan, approval of technology policies and projects, and review of current project status.

❑ **Information Systems Organization**

The Department of Education's information management function is under the Executive Director of the Office of Technology Infrastructure & Systems Support (OTISS) and has responsibility for four major areas: operational systems support, new systems development, technology infrastructure and Internet/Intranet services.

❑ **Agency Information Technology Policies and Standards**

The Department has been consolidated in the State's LAN program. The Department is following the guidelines set forth by the TSSLAN group of the Office of Information Resources. The staff in the Department of Education, Office of Technology Infrastructure & Systems Support develops policies with respect to Education information systems management. The following are a list of significant policies along with a brief description. Detail policy information may be obtained by contacting the Executive Director of the Office of Technology Infrastructure & Systems Support.

- *Hardware and Software Purchasing*: All hardware and software purchases must be approved and specifications defined by the OTISS.

- *Hardware, Software, and Client Support*: All operations concerning support of the department client stations are the responsibility of the OTISS.

- *Production Control Audit Trail*: All requests for changes to mainframe operations are routed through and requested by the OTISS.

    The following is a list of standards. Detailed standard information may be obtained by contacting the Executive Director of the Office of Technology Infrastructure & Systems Support.

- All new workstations will be Microsoft Windows 2000 running the latest service pack.
- The standard software installation will be the State approved version of Microsoft Office XP.
- All users on non-standard software will be moved to standard software where applicable and encouraged to be trained in the operation of the software.
- The department network topology will be deployed as Ethernet.
- All new database deployment of major business processes will be in Oracle.
- All users will be required to sign the department's acceptable use policy.
- Where possible, remote office locations will use the Host-On-Demand browser application interface for attachment to the State mainframe computer.
- All new or updated systems development projects will utilize web-based technologies where there is a service benefit identified.
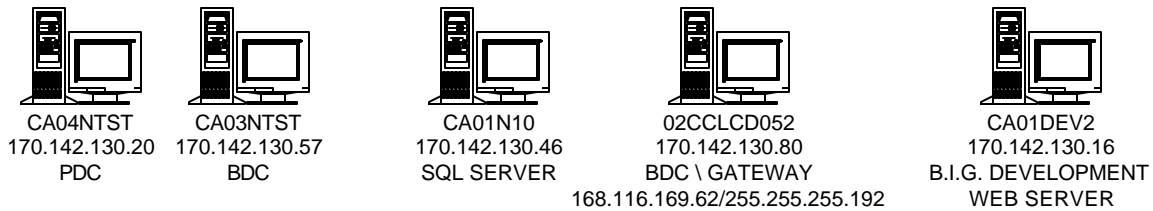

❑ **Technical Overview**

The Department of Education uses departmental local area network (LAN) running Novell under the Office of Information Resources, LAN Consolidation. Network applications include: GroupWise e-mail; 3270 emulation; Internet access. The LAN supports approximately 360 workstations and area printers. Other special software used by employees includes a legislative tracking system and Tennessee law on disk by Michie and other Department developed web-based applications.
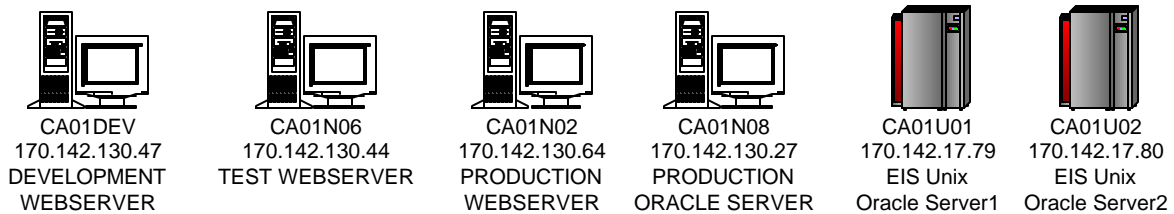
The Department production servers are running Windows NT 4.0 Server SP6a, the Unix production servers are running Solaris 2.6, all web servers are IIS 4.0 with a digital certificate from Verisign for secure socket layer, and all database servers are Oracle 8i with current plans to migrate to Oracle 9i. In addition to the production servers, there is a development environment and a test environment.

The Department workstations are currently Windows NT 4.0 with approximately 25 workstations with Windows 2000 Professional.
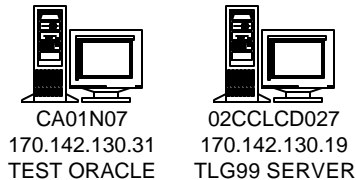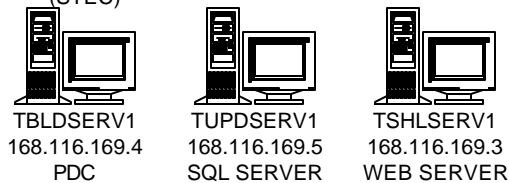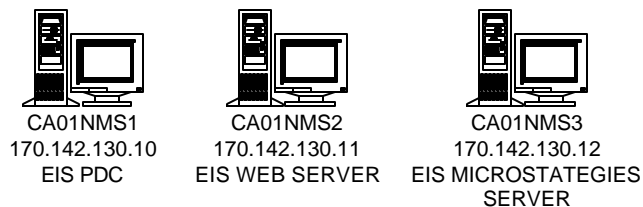
CA01TST

CA04NTST
170.142.130.20
PDC

CA03NTST
170.142.130.57
BDC

CA01N10
170.142.130.46
SQL SERVER

02CCLCD052
170.142.130.80
BDC \ GATEWAY
168.116.169.62/255.255.255.192

CA01DEV2
170.142.130.16
B.I.G. DEVELOPMENT
WEB SERVER

EDWEB

CA01DEV
170.142.130.47
DEVELOPMENT
WEBSERVER

CA01N06
170.142.130.44
TEST WEBSERVER

CA01N02
170.142.130.64
PRODUCTION
WEBSERVER

CA01N08
170.142.130.27
PRODUCTION
ORACLE SERVER

CA01U01
170.142.17.79
EIS Unix
Oracle Server1

CA01U02
170.142.17.80
EIS Unix
Oracle Server2

WORKGROUP

CA01N07
170.142.130.31
TEST ORACLE

02CCLCD027
170.142.130.19
TLG99 SERVER

CTB / MCGRAW HILL
(STEC)

TBLDSERV1
168.116.169.4
PDC

TUPDSERV1
168.116.169.5
SQL SERVER

TSHLSERV1
168.116.169.3
WEB SERVER

DOMAIN

CA01NMS1
170.142.130.10
EIS PDC

CA01NMS2
170.142.130.11
EIS WEB SERVER

CA01NMS3
170.142.130.12
EIS MICROSTATEGIES
SERVER

❑ **Agency Application Software**

The move toward web-based delivery of applications in the Department has greatly improved the efficiency of collecting and sharing information with the LEA's and the public. The data in the Teacher Licensing and Certification application is needed by other program areas within the Department and is made available to the public and school districts through the web. In order to accomplish this, we must currently download the

data from the mainframe on a daily basis and load the data into an Oracle database in order to make this information available for use by other applications.

Development of a Technology Strategy

The following technology goals correspond to the previously defined objectives in the Department's strategic plan. Each of these goals builds upon an overall theme of connectivity as the underlying structure supporting the technology strategy.

Long Range Goals:

- Assist Local Education Agencies in their efforts to establish high standards for student learning by providing teachers and students with appropriate educational technology.

- Promote instructional technology training in teacher preparation and professional development programs.

- Promote the use of technology to implement career awareness and exploration programs and integrate employment skills into instructional programs.

- Identify and examine business processes of other agencies and evaluate methods to reduce data duplication and expand information needs.

- Employ statewide approach to data warehousing to improve the agency and its dependents' access to information, as well as enhance the activities of querying, reporting and analysis activities.

- Provide reports and public information to the state infrastructure and citizens of Tennessee.

- Develop a "Digital Strategy" consistent with the statewide Information Technology Strategy and standards to provide the agency and its dependents' electronic access to timely and accurate information.

Short Range Goals:

- Identify and evaluate which business processes can be handled electronically to maximize efficiency.

- Continue a three-year cycle upgrade of all agency desktop computer hardware and software to current supported versions.

- Assist Low Performing Schools in the use of Technology as a resource for learning improvement.

Assessment of Business Process Redesign Efforts

Two of the legacy applications in the Department of Education, the State Distribution database and the State Teacher Certification database were implemented in 1984. These fifteen year-old mainframe systems are very typical in their shortfalls. Continual business requirement changes have necessitated countless modifications that have resulted in maintenance and support hardship. Information is not easily updated and accessible in a timely manner and is difficult and/or expensive to share electronically. The analysis of the Teacher Certification application is complete and the analysis of the Distribution System is planned for the upcoming year. The redesign of this system will allow the easy integration of teacher certification data into other

applications as well as improve the business process for issuing licenses. These systems will be redesigned to have the capability to share information over the Internet and to allow our constituents to apply for Teacher Licensing via the web-based system. We are currently listing year one projects for replacement of the Teacher Licensing and the State Distribution application.

Statewide Initiatives

The Department's response to questions related to the defined statewide initiatives are below.

❑ **Application and Data Inventory System**
The information in the Application and Data Inventory System is not complete and up to date. It is unclear where the majority of the information in that system came from since it was not entered by a Department employee. It appears as though there is information in the system that does not even belong. It will take some additional time to determine which applications should remain in the system and to enter the new information. The Department will work with our Account Representative to get accurate and up to date information in the system.

❑ **Geographic Information Systems (GIS)/Mapping Systems**
The Department does not utilize a geographic information system.

Chapter 4

Information Resources Management Issues

The Department has made major progress in moving toward a standard web-based architecture for all applications. With this architecture in place we have been able to deliver many services to LEA's electronically and thereby eliminating paper and manual processes. There are two primary information resource management issues that prevent us from moving forward as quickly as we would like with electronically delivering all services to LEA's through the web.

Budget

Budget is always a consideration and a constraint. The lack of funding has delayed the start of large projects that have already been approved and also makes it difficult to get approval to fill vacant positions. Until such time as the State's budget crisis is resolved, the Department will continue to work on the highest priority projects using the currently available resources and staff.

Personnel

Difficulty in attracting and keeping highly qualified technology staff is a challenge for the Department. We have been using contract labor through the Office of Information Resources IT Professional Service contract to fill technical positions in a very competitive marketplace. All of the contract labor have been here for over two years and are vital to the day to day success of implementing and supporting all of the Department's applications.
To address this issue, the Department would like to follow the lead of the Office of Information Resources in converting contract staff to full time positions. The Department is in need of the following positions: Oracle DBA; Oracle Developer; Business Analyst; Project Manager; and Advanced Web Developers.

Chapter 5

Information Technology Projects

Year One: Fiscal Year 2002-03:

Large Projects

- Vocational Education – Perkins Grant - CA04SP01
- Teacher Licensing and Certification - CA02C01
- Special Education Information System (SPEIS) – CA35C01
- School Food Service System – CA35A
- Internet Training System for School Food Service – CA35A02

Small Projects

- Federal Application Consolidated Tracking System – CA02N02
- Distribution System - CA02N01
- Hardware Equipment Replacement - CA04B

Projects Year 2 – 2003-04

Large Projects

None identified at this time.

Small Projects

- Hardware Equipment Replacement - CA04B

Projects Year 3 – 2004-05

Large Projects

None identified at this time.

Small Projects

- Hardware Equipment Replacement - CA04B

Project Summary Chart

Project Number	Project Name	Priority By Plan Year	New and Existing Costs					Three-Year Cost and Funding Requirement FY03, FY04, FY05					
			Total Initial Cost	Total Operational Cost	Total Hard Dollar Savings	Total Soft Dollar Savings	Total Spent to Date (through 6/30/02)	FY03		FY04		FY05	
								Cost	Funding	Cost	Funding	Cost	Funding
CA45001	Vocation Education - Perkins Grant	1	$300,855	$818,967	$281,430	$160,650	$212,000	$151,996	(F) $37,228; (SC) $83,498; (Benefits) $31,270	$84,341	(SC) $57,741; (Benefits) $31,270	$104,307	(F) $15,296; (SC) $57,741; (Benefits) $31,270
CA02C01	Teacher Licensing and Certification	3	$599,636	$381,351	$806,250	$0	$84,239	$164,877	(SC) $74,125 + $37,002; (Benefits) $53,750	$491,988	(SC) $201,472 + $163,016; (Benefits) $107,500	$37,078	(SC) $15,015; (Benefits) $107,500
CA35C01	Special Education Information System	6	$94,550	$0	$0	$0	$0	$94,550	(F) $94,550	$0		$0	
CA35A	School Food Service System	4	$342,866	$462,000	$0	$0	$277,537	$59,000	(F) $59,000	$84,000	(F) $84,000	$59,000	(F) $59,000
CA35A02	Internet Training System for School Food Service	5	$289,299	$205,190	$0	$0	$256,299	$51,740	(F) $51,740	$29,210	(F) $29,210	$43,210	(F) $43,210
CA02N02	Federal Application Consolidated Tracking System	2	$54,698	$7,788				$62,486	(SC) $62,486				
CA02N01	Distribution System	7	$31,546	$0				$31,546	(SC) $31,546				
CA04B	Hardware Replacement 02-03	8	$215,561					$215,561	(SC) $215,561				
CA04B	Hardware Replacement 03-04	1	$215,561							$215,561	(SC) $215,561		
CA04B	Hardware Replacement 04-05	1	$158,102									$158,102	(SC) $158,102
	Total Cost & Funding		$2,302,674	$1,875,296	$1,087,680	$160,650	$830,075	$831,756	$831,756	$885,100	$889,770	$401,697	$487,134

PROJECT PROPOSAL

Project Name:	Vocational Education-Perkins Grant	**Project Number:**	CA45001
Sponsor:	Becky Kent, Assistant Commissioner	**Plan Fiscal Year:**	2001-2002
Sponsor Signature:		**Priority:**	1
Budget/Fiscal Signature:		**Funding Source(s):**	Federal
Contact name and Phone:	Lisa Cothron, Executive Director Technology 741-6868	**Project Phase:**	1.1
Agency:	Tennessee Department of Education	**Phase Start Date:**	May 2002
Date Project Last Revised:	June 14, 2002	**Fiscal Year Project Originated:**	2001-2002
Length of Project (months):	3 Months, Estimated Completion of Installation and Implementation		

Current Status of Previously Approved Project and Approval Date:

This project was approved by the ORC in June, 2002. The Visitronix software has been ordered and installation, testing and implementation will begin as soon as the software is delivered. The ORC asked that this project utilize the shared Crystal Enterprise Server that is available.

Functional Description:

Phase 1.1 of the Vocational Education-Perkins Grant project encompasses the acquisition, installation, training, and implementation of software for the purpose of providing a web-based solution to meet the federal reporting requirements of the Perkins Grant legislation. The Perkins III requirements include providing accountability data collection, reporting, and trend analysis.

The United States Department of Education, Office of Vocational and Adult Education helps fund career and technical education through the Carl D. Perkins Vocations-Technical Education Act Amendments of 1998, Public Law 105-332. Under the Perkins Act, federal funds are made available to help provide vocational-technical education programs and services to youth and adults. The vast majority of funds awarded each year under the Perkins Act are awarded in the form of grants to state education agencies. The Department currently receives approximately $25,000,000 per year as a State Basic Grant. The distribution of funds within the state is directed to priority items established by the state in accordance with an approved state plan for vocational-technical education. Local Education Agencies are the eligible recipients for subgrants under the State Basic Grant.

The current manual method of collecting the required information and generating reports is labor intensive and subject to error. The ability to electronically collect data in a standard format from all school districts will provide for accurate and efficient reporting.

The Department utilizes the Internet and Web-based technologies as the strategic priority for the agency to deliver information for the benefit of K-12 public Local Education Agencies (LEA). Local Education Agencies include all the State's 138 District Offices and their respective local schools. This digital strategy is consistent with the statewide information technology strategy and standards.

The purpose of the Vocational Education, Perkins Grant project is to provide:
- The Department with a manageable, centralized repository of vocational education information to provide accurate student data necessary for the meeting federal reporting required to be eligible to receive the State Basic Grant available under the Perkins Act.
- The Local Education Agencies with a standardized, electronic method for meeting vocational education reporting requirements.
- The capability for Local Education Agencies to have on-line access and inquiry to their respective information.
- Specified standardized reporting, as well as access to information through query and ad hoc reporting capabilities.
- A flexible system that can respond to constantly changing legislative mandates.

The Vocational Education, Perkins Grant project will provide the data required to satisfy the Perkins Grant federal legislation and reporting requirement, and ensure effective oversight of Local Education Agencies in accordance with the Perkins Act.

Business Goal or Objective:

The mission of the Department is to advance student success by creating and supporting a dynamic, world-class system of teaching and learning for all Tennesseans. The Department organizes its activities to identify and engender best practices, while ensuring compliance with state law and State Board rules and regulations. The Department supports its mission by fostering the use of technology as a tool for the teacher in the classroom and as the mechanism through which the Department supports Local Education Agencies, implements legislative mandates, and exchanges information with constituents.

Goal 4: Promote responsible and accountable government

Objective *4.1: Make state government customer focused*
- Allow citizens to conduct business with the state anytime (24X7X365)

Objective 4.5: Improve processes through the use of technology and innovation
- Ensure new and existing systems are web-based

Technical Description:

This project will include the acquisition of Vistronix Education Accountability Portal. This software will utilize the Department's existing architecture, but will require hardware upgrades in order to accommodate the additional processing volume. The architectural design will be an n-tier system approach that is consistent with the approach currently used for all Department systems. The technology involved in the implementation of the Vocational Education-Perkins Grant will continue to build on the current LAN and Intranet infrastructure. Upgraded hardware will be acquired for this system and additional software licenses purchased if determined to be needed based on the estimated number of system users.

The following technologies will be utilized in the development and implementation of the system:

- Vistronix Education Accountability Portal

- Microsoft Windows 2000 Server (or higher) as the host operating system for the database server.

- Oracle 8i release 8.1.6 (or higher) as the database server providing the backend database storage.

- Microsoft Windows 2000 (or higher) as the host operating system for the web/application server.

- Microsoft Internet Information Server (IIS) 4.0 (or higher) providing the host for active server pages (ASP).

- Crystal Decisions' Crystal Reports 8.5 for generation of reports.

- Client systems support for Netscape 4.0 (or higher) and Microsoft Internet Explorer 5.01 (or higher).

- Secure Socket Layer (SSL) with 128-bit encryption security capability for the Internet browser to provide the functionality to encrypt and decrypt data.

.

Data Description:

There are over 310 state schools within 138 Local Education Agencies that offer vocational-technical education programs. Information is recorded on over 281,000 vocational education students. The system will provide the Department and Local Education Agencies with the access to the following information:

1. Local Education Agency Information (School Districts and Schools)
   - Local Education Agency Demographics

- Staff Member Demographics
- School Demographics

2. Vocational Ed Student Information
    - Vocational Ed Student Demographics
    - Vocational Ed Student Competency Profile
    - Vocational Ed Student Concentrator Report
    - Vocational Ed Student Completer Placement Report

3. Interfaces
    - Education Information System (EIS)
    - SDE Directory

Risk Assessment / Potential Problems / Solutions:

High Risk # 1: Security required beyond basic network security.
In order to provide the required level of security on student data this project must address the transmission of data and the accessibility of data at the user level. This project will use SSL for transmission of data over the Internet. The accessibility of data will be limited to authorized department and school district personnel through the assignment of user id's and passwords.

Service Benefits Description:

The implementation of the Vocational Education-Perkins Grant project will:
- Improve Departmental efficiency by utilizing a manageable, centralized repository of information needed to provide vocational education student information necessary to support the business requirements for the Perkins Act federal reporting.
- Reduce the time and cost Local Education Agencies currently spend collecting information on paper manually and mailing them to the Department.
- Provide the Department and Local Education Agencies with up-to-date information that can be used to produce a wide range of statistical and ad hoc reports in response to federal, state, and local constituent requests.
- Provide a flexible system for the Department and Local Education Agencies that can respond to constantly changing federal and state legislative and local mandates, State Board rules and regulations and Department policy.

Financial Benefits Description:

There would be a decrease in the amount of personnel time required to manually produce the needed reports required under the Perkins Act and the accuracy of the data would be greatly improved. This time savings would permit a staff reallocation to satisfy academic requirements of the federal Perkins Grant.

- The current process requires the following departmental staff time: 15 days time for six SDE regional directors; 25 days time for two SDE business unit staff; and six days time for five clerical staff. The total staff involved is 11 with a total of 170 man days. It is expected that we can cut the amount by 40%.
- Postage, packaging, and paper cost will be eliminated on 6 mailings per year.
- The cost to scan the instructor form and the student form would be eliminated.
- The quality and accuracy of the data would be improved to ensure the reliability of generated reports.
- The current process requires the following estimated LEA staff time: 3 days time for 4,095 teachers; and 20 days time for 107 vocational directors. The total staff involved is 4,202 with a total of 14,425 man days. The time required by LEA staff to report vocational student data will be reduced by at least 50%.

Explanation of Critical Dates and/or Mandates:

None identified.

Cost Benefit Analysis Attached: Yes.

PROJECT PROPOSAL

Project Name:	Design, Development, and Implementation of Teacher Licensing	**Project Number:**	CA02C01
Sponsor:	Jeff Roberts, Deputy Commissioner	**Plan Fiscal Year:**	2002-2003
Sponsor Signature:		**Priority:**	1
Budget/Fiscal Signature:		**Funding Source(s):**	State Continuance
Contact name and Phone:	Lisa Cothron, Executive Director Technology 741-6868	**Project Phase:**	1.2
Agency:	Tennessee Department of Education	**Phase Start Date:**	January 2003
Date Project Last Revised:	June 14, 2002	**Fiscal Year Project Originated:**	2000-2001
Length of Project (months):	12 Months, Estimated Completion of Design, Development, and Implementation		

Current Status of Previously Approved Project and Approval Date:

Phase 1.1 of the Teacher Licensing project was completed in 2000-2001. Phase 1.1 encompassed the assessment and analysis of the business requirements for issuing and maintaining teacher license information. The major deliverables from this phase were the project scope document, the process model, the data model, and the business rules.

Phase 1.2 has been delayed due to available funding and resources. This phase was approved based on the stipulation that the Department utilizes the Portal Contractor. The Department will utilize the Portal Contractor to provide the "citizen facing" portion of this application should legislation be passed allowing a fee to be charged for the issuance of a teacher license. With no fee currently being charged, there is no available funding for the Department to pay the fee for the Portal Contractor. The project proposal and cost benefit analysis will be updated accordingly.

Approval Date: 2/28/2002

Functional Description:

Phase 1.2 of the Teacher Licensing project will encompass the design, development, testing, and implementation of a web-based system.

The Tennessee Department of Education, Office of Teacher Licensing is responsible for verifying that applicants meet all the educational, teacher preparation, and national examination requirements necessary to be recommended for a Tennessee teacher license. A license is required in order for an individual to be employed as a teacher, principal, or administrator in a Tennessee school. There are currently 16 types of teacher licenses that

can be issued. Teacher experience information is necessary for license renewal and advancement to higher level licenses. Teacher endorsement information is maintained as teachers meet the requirements for teaching specific courses or subject areas.

The current mainframe system for issuing licenses results in a large backlog of applications for teacher licenses to be processed during peak times of the year. This can result in a teacher not having a current license at the beginning of a school year, which can impact school funding and salary ratings.

Objectives:
- Issue a teacher license in an adequate timeframe after the receipt of all required documentation.
- Provide teachers, schools, and school districts electronic access to the status of a teacher's license.
- Provide Department and School Districts with accurate teacher experience information used to determine salary ratings for the Basic Education Program (BEP).
- Provide Department and School Districts with accurate teacher licensing and endorsement information required to satisfy legislative mandates and reporting obligations, and ensure effective oversight of school districts in accordance with the Tennessee Education Improvement Act of 1992.

Business Goal or Objective:

The mission of the Department is to advance student success by creating and supporting a dynamic, world-class system of teaching and learning for all Tennesseans. The Department organizes its activities to identify and engender best practices, while ensuring compliance with state law and State Board rules and regulations. The Department supports its mission by fostering the use of technology as a tool for the teacher in the classroom and as the mechanism through which the Department supports Local Education Agencies, implements legislative mandates, and exchanges information with constituents.

Goal 4: Promote responsible and accountable government

Objective *4.1: Make state government customer focused*
♦ Allow citizens to conduct business with the state anytime (24X7X365)

Objective 4.5: Improve processes through the use of technology and innovation
♦ Ensure new and existing systems are web-based
♦ Reduce cost, time, and steps to complete government transactions

Technical Description:

The architectural design will be an n-tier system approach that is consistent with the approach currently used for all Department systems. The technology involved in the

implementation of the Teacher Certification System will continue to build on the current LAN and Intranet infrastructure. Existing hardware will be utilized for this system and additional software licenses purchased, if determined to be needed, based on the estimated number of system users.

The following technologies will be utilized in the development and implementation of the system:

- Sun Solaris 2.6 (or higher) as the host operating system for the database server.

- Oracle 8i release 8.1.6 (or higher) as the database server providing the backend database storage.

- Microsoft Windows NT Server 4.0 SP6 (or higher) as the host operating system for the web/application server.

- Microsoft Internet Information Server (IIS) 4.0 (or higher) providing the host for active server pages (ASP).

- Client systems support for Netscape 4.0 (or higher) and Microsoft Internet Explorer 5.01 (or higher).

- Visual Studio 6.0 (or higher), current Javascript standard and HTML 3.2 (or higher) for the web server development.

- Current Javascript standard and HTML 3.2 for the web client browser development.

- Secure Socket Layer (SSL) with 128-bit encryption security capability for the Internet browser to provide the functionality to encrypt and decrypt data.

- An OIR-managed Firewall to restrict unauthorized access.

The Department will utilize the Portal Contractor to provide the "citizen facing" portion of this application should legislation be passed allowing a fee to be charged for the issuance of a teacher license. With no fee currently being charged, there is no available funding for the Department to pay the fee for the Portal Contractor.

Data Description:

There are currently 250,000 teacher license records. Of those records, 90,000 educators have a current/active license. There are 61,000 licensed teachers employed in Tennessee public schools.
1. Teacher Information
   - Teacher Demographics
2. Education Information
   - College/University
   - Degree Earned
3. Test Information
   - Test Area

- Test Score
- Test Date
4. License Information
  - License Type
  - Issue Date
  - Expiration Date
  - License Status
5. Experience Information
  - School Year
  - School
  - Assignment
6. Endorsement Information
  - Endorsement Areas

The system will also interface with the SDE Directory and EIS.

Risk Assessment / Potential Problems / Solutions:

Medium Risk One: Project Development Resources.

The Department of Education, Office of Technology does not currently have adequate development staff resources to assign to the development phase. We have resources to assign to the design phase, but will need additional resources (advanced web developers and an Oracle DBA) for the development phase. Due to current budgetary issues, the development phase of this project could get delayed until such time as the budget crisis is resolved.

High Risk One: Security required beyond basic network security.
In order to provide the required level of security on teacher data this project must address the transmission of data and the accessibility of data at the user level. This project will use SSL for transmission of data over the Internet. The accessibility of data will be limited to authorized department, school district personnel, and applicants through the assignment of user id's and passwords.

Service Benefits Description:

The successful implementation of the Teacher Licensing System will:
- Improve efficiency by re-engineering inefficient business processes and business requirements.
- Provide accurate and real-time information on the status of a Teacher License application to teachers, schools, and school districts.

- Issue/renew teacher licenses in an acceptable timeframe. This will eliminate the problem of teachers being rated incorrectly for salary purposes and funding being withheld from schools with non-licensed teachers.
- Provide a flexible system for the Department, School Districts, Schools, and teachers that can respond to constantly changing legislative mandates, State Board of Education rules and regulations, and Departmental policy.

Financial Benefits Description:

There will be a reduction in expenditures for mainframe processing and programming support.

Explanation of Critical Dates and/or Mandates:

None at this time.

Cost Benefit Analysis Attached (yes/no): Yes.
If not attached, explain reason:

PROJECT PROPOSAL

Project Name:	Assessment and Analysis of Special Education Information System	**Project Number:**	CA36C01
Sponsor:	Jeff Roberts, Deputy Commissioner	**Plan Fiscal Year:**	2002-2003
Sponsor Signature:		**Priority:**	2
Budget/Fiscal Signature:		**Funding Source(s):**	Federal
Contact name and Phone:	Lisa Cothron, Executive Director Technology 741-6868	**Project Phase:**	1.1
Agency:	Tennessee Department of Education	**Phase Start Date:**	Jan 2003
Date Project Last Revised:	June 14, 2002	**Fiscal Year Project Originated:**	2001-2002
Length of Project (months):	6 Months, Estimated Completion of Assessment and Analysis		

Current Status of Previously Approved Project and ORC Approval Date:

The projected start date of Phase 1.1 of the Special Education Information System (SEIS) will be delayed due to lack of available personnel resources.
Approval Date: 2/28/2002

Functional Description:

Phase 1.1 of the Special Education Information System (SEIS) project will encompass the assessment and analysis of the business requirements for scheduling, tracking, and reporting special education student information. The major deliverables of this phase will be the project scope document, business rules, process model, and data model.

The Tennessee Department of Education, Office of Special Education is required by the United States Department of Education in accordance with the Individuals with Disabilities Education Act to collect and report specific information on special education students in Tennessee's 138 school districts.

D&A Systems, Inc developed the current DOS based system being utilized by the majority of school districts. The Department pays D&A Systems, Inc. a yearly maintenance fee to provide federally required reports and any ad-hoc reporting that may be needed. Independent school districts (i.e. Metro, Shelby, Hamilton) have developed their own software for special education student tracking and reporting. As a result, each district reports the required special education data to the Department and then the Department has to combine the information into a single data and report package to send to the United States Department of Education. The demographic data on special education students must also be sent to EIS for inclusion of those students in the total

population. This process could be greatly improved by having a web-based application with the data maintained centrally at the Department. This would eliminate the need to collect the data from each district and combine that data to generate federal reports.

The Department utilizes the Internet and Web-based technologies as the strategic priority for the agency to deliver information for the benefit of K-12 public Local Education Agencies (LEA). Local Education Agencies include all the State's 138 District Offices and their respective local schools. This digital strategy is consistent with the statewide information technology strategy and standards.

The purpose of the Special Education Information System is to provide:
- The Department with a manageable, centralized repository of special education information to provide accurate student data necessary for the meeting federally mandated reporting required by the Individuals with Disabilities Education Act.
- The Local Education Agencies with a standardized, electronic method for meeting special education reporting requirements.
- The capability for Local Education Agencies to have on-line access and inquiry to their respective information.
- Specified standardized reporting, as well as access to information through query and ad hoc reporting capabilities.
- A flexible system that can respond to constantly changing legislative mandates.

The Special Education Information System will provide the data required to satisfy federal legislative mandates and reporting obligations, and ensure effective oversight of Local Education Agencies in accordance with the Individuals with Disabilities Education Act.

Business Goal or Objective:

The mission of the Department is to advance student success by creating and supporting a dynamic, world-class system of teaching and learning for all Tennesseans. The Department organizes its activities to identify and engender best practices, while ensuring compliance with state law and State Board rules and regulations. The Department supports its mission by fostering the use of technology as a tool for the teacher in the classroom and as the mechanism through which the Department supports Local Education Agencies, implements legislative mandates, and exchanges information with constituents.

Goal 4: Promote responsible and accountable government

Objective *4.1: Make state government customer focused*
♦ Allow citizens to conduct business with the state anytime (24X7X365)

Objective 4.5: Improve processes through the use of technology and innovation
♦ Ensure new and existing systems are web-based

Technical Description:

The information collected during the assessment and analysis of the Special Education Information System requirements will be used to define the best technical solution that is consistent with the Department's technology strategy. The solution will provide a system that can be easily modified in response to changes in law, rules, regulations, and departmental policy.

Data Description:

There are over 1,600 state schools within 138 Local Education Agencies that record information in the D&A Systems, Inc. special education census software package or local (in-house) independent system. Information is recorded on over 125,863 special education students. The system will provide the Department and Local Education Agencies with the access to the following information:

1. Local Education Agency Information (School Districts and Schools)
    - Local Education Agency Demographics
    - Staff Member Demographics
    - School Demographics

2. Special Ed Student Information
    - Special Ed Student Demographics
    - Special Ed Student Services Information
    - Special Ed Student Enrollment/Withdrawal/Transfer Information
    - Special Ed Student Promotion/Retention Information
    - Special Education ADM/ADA for Primary Options 1 through 10
    - Special Education ADT for Primary Options 1 through 10

3. Interfaces
    - Education Information System (EIS)
    - SDE Directory

Risk Assessment / Potential Problems / Solutions:

No identified risks at this time. This project is intended to define the requirements for special education student tracking and reporting and to determine if reengineering the current business process would provide for a more efficient and effective means of meeting the federal requirements than currently exists.

Service Benefits Description:

The completion of the assessment and analysis of the Special Education Information System will:

- Improve efficiency by identifying and re-engineering inefficient business processes and business requirements.

The completion of design, development, testing and implementation of the Special Education Information System will:

- Improve Departmental efficiency by utilizing a manageable, centralized repository of information needed to provide special education student information necessary to support the business requirements for federal reporting in accordance with the Individuals with Disabilities Education Act.
- Reduce the time and cost Local Education Agencies currently spend collecting information on paper manually and mailing them to the Department.
- Provide the Department and Local Education Agencies with up-to-date information that can be used to produce a wide range of statistical and ad hoc reports in response to federal, state, and local constituent requests.
- Provide a flexible system for the Department and Local Education Agencies that can respond to constantly changing federal and state legislative and local mandates, State Board rules and regulations and Department policy.

Financial Benefits Description:

Any financial benefits will be identified in this phase (1.1) of the project.

Explanation of Critical Dates and/or Mandates:

None identified.

Cost Benefit Analysis Attached: Yes.

PROJECT PROPOSAL

Project Name: Design, Development, Testing and Implementation Of School Food Service System	**Project Number:** CA35A
Sponsor: Sarah White, Director School Nutrition Program	**Plan Fiscal Year:** 2002-2003
Sponsor Signature:	**Priority:** 1
Budget / Fiscal Signature:	**Funding Sources:** Federal
Contact Name and Phone: Sarah White, Director School Nutrition	**Project Phase:** 1.2
Secondary Contact: Lisa Cothron, Executive Director Technology	
Agency: Tennessee Department of Education	**Phase Start Date:** July 1999
Date Project Proposal Last Revised: June 20, 2002	
Fiscal Year Project Originated: 1998-1999	
Length of Project (months): 36 months	

Current Status of Previously Approved Project and Approval Date:

This project has continued to move ahead but at a slower rate than the original scheduled time frame. Plans were to co-develop this application with The Florida Department of Education's Office of School Nutrition and Florida was to contribute approximately $260,000 of the application development cost. However, we were unable to get Florida to agree to contract terms or sign a contract.

The system was scheduled to be operational in a limited number of School Systems this past year and phased into other systems in the following years but has been placed on hold due to two changes in the operation of the School Nutrition Program. First, the addition of a new USDA Seamless Summer Feeding Program. Second, added responsibility for the National School Lunch, Breakfast, and SNACK programs in Residential Child Care Institutions (RCCIs) and Private Schools. To accommodate these significant changes the production system will be updated and then required changes will be incorporated into this project. The goal is to have all changes accomplished in time to be operational in a limited number of School Systems by the end of the 2002-2003 School Year.

Functional Description:

Phase 1.1 of the School Food Service System was completed with the awarding of the RFP to EasySoft International, INC.

Phase 1.2 encompasses the design, development, testing, and installation of the School Food Service System.

The Tennessee Department of Education, Office of School Nutrition, administers the National School Lunch Program (NSLP), the School Breakfast Program (SCB), After School Snack Program and the Nutrition Education and Training (NET) Program in the public schools in Tennessee. This office provides technical assistance, training, monitoring, and claims processing for reimbursement of funds used in the operation of local food service programs in accordance with federal regulations and guidelines from the United States Department of Agriculture (USDA). During the 1997-98 school year, more than 133 million in federal funds and more than 4 million in state funds were distributed to local education agencies (LEA's).

The National School Lunch Program was established in 1946 after many World War II draftees had nutrition-related problems which kept them from serving in the military. In Tennessee, there are 1,532 public schools that participate in the program. Sixty-eight (68) percent of the students eat a school lunch. The School Breakfast Program is offered in 1,372 schools. Of the students who eat breakfast, 81% are free and reduced price. State legislation was passed in April,1986, which requires a breakfast program to be established in schools that feed a significant percentage of free and reduced price meals. There are 480 schools who serve enough needy children to receive severe need funding. The Nutrition Education and Training Program provides leadership in promoting healthy eating habits for our nation's children. It integrates mealtime and learning experiences to help children make informed food choices as a part of a healthy lifestyle

To participate in these programs the LEA must submit an application to the Office of School Nutrition each year. This application includes system and school level data. In addition each LEA must submit a consolidated monthly claim for reimbursement of meals served. The claim information is developed from an aggregation of school level information.

The State has provided the opportunity for all public schools to be connected with full text and graphics to the Internet. Building on this Internet connectivity the Office of School Nutrition modified a USDA approved system operational in Florida. This system consisted of an Internet component and a LAN component. The Internet application was used to facilitate the collection of yearly application data and monthly, consolidated claim information from the LEA's. The LAN based application enhanced state reporting and claims processing. This system greatly enhanced the communication of information between the LEA and the state office but did nothing to enhance the collection and aggregation of data at the school level.

The objective of this project is to develop an individual school reporting system that addresses the collection and consolidation of nutritional program school level data. It is expected that the LEA users would be completely relieved from the burden of compiling data from all its individual schools.

The Tennessee School Food Service System project supports (1) individual school users in filing their claims (meal counts of various types and operational costs), and (2) LEA users in filing their consolidated claims. Individual schools will file their claim regularly with the system on a monthly basis. LEA users will be monitoring the filing of claims and revised claims by all of its schools, and do its own one-touch filing of the consolidated claims with the state office. The system is geared toward the LEA and individual school users, and is designed in such a way that the state staff's involvement is mainly to ensure that the system is operational and continuously updated. In addition statewide data by system and school will be available inter- and intra-departmentally for various reports.

Business Goal or Objective:

The mission of the Department is to advance student success by creating and supporting a dynamic, world-class system of teaching and learning for all Tennesseans. The School Nutrition Program provides to the student nutritious foods for developing healthy bodies, as well as, learning and education in proper diet, which will determine a lifetime of physical well being. It provides parents an economical way to provide a significant amount of the student's daily nutritional requirements. The program benefits teachers because it increases the student's willingness and ability to learn. The program benefits schools because it is an integral part of education, contributing substantially to the health and well being of students. The program provides benefits to the local economy because it is a vast market for locally purchased foods, supplies, equipment, as well as providing additional jobs in the community.

The Department organizes its activities to identify and engender best practices, while ensuring compliance with state law, State Board policy and federal rules and regulations. The Department supports its mission by fostering the use of technology as the mechanism through which the Department supports Local Education Agencies (LEA), implements legislative mandates, and exchanges data and information with constituents.

The Department's information technology strategy focuses on the following:
- Using the connectivity of the Internet to increase the knowledge resources of students, school staff, and Department staff; to provide citizens access to Department information and data; to make improvements to the administrative effectiveness and efficiency of the Department.
- Moving toward a seamless system of data collection, storage, and reporting for all department applications.

- Standardizing software and hardware platforms to automate tasks and functions, maximize data consistency and minimize data management and support by Department staff.

This project directly supports the Department's business strategy by building upon the connectivity of the Internet to support Local Education Agencies and improve the administrative efficiency of the Department.

Technical Description:

The Tennessee School Food Service System will be located and supported within the Department on a Microsoft NT Server utilizing Oracle as the backend database. Oracle is the backend database chosen as the standard for the Department.

Data Description:

The state and federal reporting requirements for the yearly application and the monthly, consolidated claim are well established. The following are the tables needed. Some tables are year-dependent, and some are not. For a year-dependent table, there is one such table per program year, and data will vary with the program year in the MAIN MENU.

USERS (NOT year dependent)

The USERS table contains all users that can access this Web site.

SCHOOLS (year dependent)

This table contains all schools in the system. This identifies school application participation.
- Demographic Data
- Congressional Data
- Program Participation Data

SCHOOLCLAIMS (year dependent)

The SCHOOL CLAIMS table records all detailed meal and cost data filed by individual school users. Only one latest version per period will be recorded in this table. Any previous versions of the data will be archived in another table, for efficiency.

ARCHIVAL SCHOOLCLAIMS (year dependent)

This table is identical to SCHOOL CLAIMS table, except that it carries one more attribute called Date Archived.

It is used to store ALL the previous versions of claims filed by individual school users. This table is for retrieval only (only the claim entry program will append claims into this table).

LEA CLAIMS (year dependent)

The LEA CLAIM table records all detailed meal and cost data filed by LEA users. It keeps track of all claims including original and revised claims. Unlike the SCHOOL CLAIMS table, it is an archival table. Only the one-click filing by the LEA user will add an entry of a LEA claim into this table, otherwise this table is ONLY for retrieval.

- Schools Included -- This includes all schools that have claims filed for this month, although their claims may not be COMPLETE, that covers all the period.
- Schools Completed   -- This includes the number of schools that have completely covered all operational days of this month.
- DETAILED FIELDS FOR DATA COLELCTAION

OPERATING DAYS (year dependent)

This table records all operating days for each month in the program year (not calendar year). Each board school user will set this table so that it can be known if an individual school has filed claims in a month for every operating day in the month.

Risk Assessment / Potential Problems / Solutions:

High Risk One: Coordination Problems

Status: Florida backed out of the contract therefore the coordination between states is no longer a risk.

The project will require coordination between state agencies in Tennessee and Florida and LEA's within the two states. Fortunately both Florida and Tennessee have the same School Nutrition Internet programs and the vendor selected through the RFP process to develop this new system developed both Florida's and Tennessee's existing Counting and Claiming systems. Also, the majority of the data to be collected are mandated by the USDA. However, to address any coordination issues a review committee has been established between the state agencies. Also, review and test teams have been determined within each state at the LEA level.

High Risk Two: User Support

The level of participation of the LEA's will determine the success of the project. A broad base of support already exists at the LEA level. The genesis for this project came about directly from suggestions and expressed LEA needs.   In Tennessee the state is

divided into geographical areas (6 regions) with each area supported by a School Nutrition staff consultant. There is a representative test and review team active with the current School Nutrition Internet applications. This team will form the core of an expanded advisory committee for this project. Additional development and functionality information and additional project feedback will be disseminated and collected at regional meetings.

Service Benefits Description:

The successful completion of the Tennessee School Food Service System will provide the LEA:
- A flexible schedule (monthly) for an individual school to file the needed data via the Internet.
- The ability to monitor and supervise the filing status of all individual schools.
- Better enforcement of USDA regulations at the school level.
- The capacity to store and review archival data at individual school level on-line.
- A system whereby claims are filed more timely, thereby providing reimbursement in a more timely manner.
- An intangible benefit by maintaining the elimination of paper and mail service costs at over 1600 school locations.

The successful enhancement of the Tennessee School Food Service System will provide the Department:
- A system that will be compatible with an integral part of the existing Tennessee and Florida Internet counting and claiming systems.
- A system whereby all relevant data and history will be available to the state agency, local system, monitors, and auditors for data retrieval, auditing, reporting, verification, trend analysis, etc.

Financial Benefits Description:

No increase in agency revenues, cost avoidance, or reduction in expenditures has been identified at this time.

Explanation of Critical Dates and/or Mandates:

None

Cost Benefit Analysis Attached (yes / no): Yes
If not attached, explain reason:

PROJECT PROPOSAL

Project Name: Testing and Implementation Of School Nutrition Program Internet Training System	**Project Number:** CA35A02
Sponsor: Sarah White, Director School Nutrition Program	**Plan Fiscal Year:** 2001-2002
Sponsor Signature:	**Priority:** 1
Budget / Fiscal Signature:	**Funding Sources:** Federal
Contact Name and Phone: Sarah White, Director School Nutrition	**Project Phase:** 1.0
Secondary Contact: Lisa Cothron, Executive Director Technology	
Agency: Tennessee Department of Education	**Phase Start Date:** Feb. 2001
Date Project Proposal Last Revised:	**Fiscal Year Project Originated:** 1998-1999
Length of Project (months): 8 months	

Current Status of Previously Approved Project and Approval Date:

Functional Description:

Phase 1.0 will encompass final testing and installation of the School Food Service Internet Training System developed with a USDA grant in conjunction with Tennessee State University's Hospitality Education (T.H.E.) training program.

.

The Tennessee Department of Education, Office of School Nutrition, administers the National School Lunch Program (NSLP), the School Breakfast Program (SCB), After School Snack Program and the Nutrition Education and Training (NET) Program in the public schools in Tennessee. This office provides technical assistance, training, monitoring, and claims processing for reimbursement of funds used in the operation of local food service programs in accordance with federal regulations and guidelines from the United States Department of Agriculture (USDA). During the 2000-01 school year, more than 133 million in federal funds and more than 4 million in state funds were distributed to local education agencies (LEA's).

The National School Lunch Program was established in 1946 after many World War II draftees had nutrition-related problems which kept them from serving in the military. In Tennessee, there are 1,542 public schools that participate in the program. Sixty-eight (68) percent of the students eat a school lunch. The School Breakfast Program is offered in 1,409 schools. Of the students who eat breakfast, 81% are free and reduced price. State legislation was passed in April, 1986, which requires a breakfast program to be established in schools that feed a significant percentage of free and reduced price meals. There are 480 schools who serve enough needy children to receive severe need funding. The Nutrition Education and Training Program provides leadership in promoting healthy eating habits for our nation's children. It integrates mealtime and learning experiences to help children make informed food choices as a part of a healthy lifestyle

To participate in these programs the LEA must submit an application to the Office of School Nutrition each year. This application includes system and school level data. In addition each LEA must submit a consolidated monthly claim for reimbursement of meals served. The claim information is developed from an aggregation of school level information.

The state has provided the opportunity for all public schools to be connected with full text and graphics to the Internet. Building on this Internet connectivity the Office of School Nutrition modified a USDA approved system operational in Florida. This system consisted of an Internet component and a LAN component. The Internet application was used to facilitate the collection of yearly-required federal application data and monthly, consolidated claim information from the LEA's. The LAN based application enhanced state reporting and claims processing. This system also greatly improved the communication of information between the LEA's and the state office.

The success of the Internet program; the increased access/availability to the internet by LEA School Nutrition personnel; and the overall lack of good quality accessible School Nutrition focused training for LEA personnel were the catalysts for a USDA grant application. The Department of Education Office of School Nutrition was approved for a $230,714.00 grant to develop and implement Internet based School Nutrition training on August 3, 1998. Tennessee State University's Hospitality Education office was chosen to perform the actual development of the training application

The objective of this project is to develop a statewide school foodservice Internet training and competency-testing program for any level of school foodservice employee. It is designed to coordinate with other aspects of electronic reporting developed by the Department of Education's School Nutrition Program and Tennessee State University's Hospitality Education (T.H.E.) training program.

The system has been designed to meet the needs of Food Service Directors/Supervisors and School Food Service Managers. There are 13 training modules; each followed by a

quiz. Each module has been or is currently in the process of being reviewed by professionals in the field for accuracy and competency of the training materials.

Business Goal or Objective:

The mission of the Department is to advance student success by creating and supporting a dynamic, world-class system of teaching and learning for all Tennesseans. The School Nutrition Program provides to the student nutritious foods for developing healthy bodies, as well as, learning and education in proper diet, which will determine a lifetime of physical well being. It provides parents an economical way to provide a significant amount of the student's daily nutritional requirements. The program benefits teachers because it increases the student's willingness and ability to learn. The program benefits schools because it is an integral part of education, contributing substantially to the health and well being of students. The program provides benefits to the local economy because it is a vast market for locally purchased foods, supplies, equipment, as well as providing additional jobs in the community.

The Department organizes its activities to identify and engender best practices, while ensuring compliance with state law, State Board policy and federal rules and regulations. The Department supports its mission by fostering the use of technology as the mechanism through which the Department supports Local Education Agencies (LEA), implements legislative mandates, and exchanges data and information with constituents.

The Department's information technology strategy focuses on the following:
- Using the connectivity of the Internet to increase the knowledge resources of students, school staff, and Department staff; to provide citizens access to Department information and data; to make improvements to the administrative effectiveness and efficiency of the Department.
- Standardizing software and hardware platforms to automate tasks and functions, maximize data consistency and minimize data management and support by Department staff.

This project directly supports the Department's business strategy by building upon the connectivity of the Internet to support Local Education Agencies.

Technical Description:

The Tennessee School Food Service System will be housed and administrated within the department on an existing Microsoft NT Server utilizing a Microsoft SQL 2000 database and the Blackboard Inc. Blackboard 5 course management system. While Microsoft SQL 2000 is not the database chosen as the standard for the department it is the one that works with Blackboard 5 and is only intended to be used with this internet training application.

Data Description:

There are 13 training modules; each followed by a quiz. Each module has been or is currently in the process of being reviewed by professionals in the field for accuracy and competency of the training materials.

The training modules for Food Service Directors/Supervisors include:
1) Nutrition
2) Menu planning
3) Program Management
4) Financial Management
5) Food Safety
6) Marketing

The training modules for School Food Service Managers include:
1) Nutrition
2) Menu Planning
3) Program Management
4) Marketing
5) Food Production
6) Food Safety
7) Equipment

Risk Assessment / Potential Problems / Solutions:

High Risk: User Support

The level of participation of the LEA's will determine the success of the project. A broad base of support already exists at the LEA level. The genesis for this project came about directly from suggestions and expressed LEA needs. There is a representative test and review team active in the development of the training material. This team will form the core of an expanded advisory committee for this project. Training also will be provided to the LEA School Nutrition Directors/Supervisors; who will coordinate the training within their school systems, by an existing State School Nutrition Program staff member. Additionally each training module will be reviewed by the Tennessee School Food Service and American School Food Service Associations for certification credit.

The state is divided into geographical areas (6 regions) with each area supported by a School Nutrition staff consultant. Additional development and functionality information and additional project feedback will be disseminated and collected at regional meetings.

Service Benefits Description:

The successful completion of the Tennessee School Food Service System will provide the LEA:
- A core of School Nutrition focused training via the Internet.
- The ability to monitor and supervise the training status of all individuals.
- A database of training documentation.
- The ability to provide training to a larger section of employees at a reduced price.
- A system of School Nutrition focused training available at a time and location of each individual's choosing.

The successful completion of the Tennessee School Food Service System will provide the Department:
- A better trained LEA staff resulting in an improved School Nutrition program operation in Tennessee.
- A system that provides the foundation for additional training opportunities.

Financial Benefits Description:

No increase in agency revenues, cost avoidance, or reduction in expenditures has been identified at this time.

Explanation of Critical Dates and/or Mandates:

None

Cost Benefit Analysis Attached (yes / no): Yes
If not attached, explain reason:

Small Project

Project Number:	CA02N02
Project Name:	Federal Application Consolidated Tracking System – FINANCIAL MODULE (FACTS-FIN)
Fiscal Year:	2002-2003
Sponsor/Contact:	Lisa Cothron, Executive Director, Office of Technology and Systems Support
Priority:	High
Agency/Division:	Technology, Department of Education
Funding Source(s): (New Initial Costs)	State Continuance
Funding Source(s): (New Operational Costs)	State Continuance
Business Goal or Objective:	The mission of the Department is to advance student success by creating and supporting a dynamic, world-class system of teaching and learning for all Tennesseans. The Department organizes its activities to identify and engender best practices, while ensuring compliance with state law and State Board rules and regulations. The Department supports its mission by fostering the use of technology as a tool for the teacher in the classroom and as the mechanism through which the Department supports Local Education Agencies, implements legislative mandates, and exchanges information with constituents. **Goal 4: Promote responsible and accountable government** **Objective *4.1: Make state government customer focused*** ♦ Allow citizens to conduct business with the state anytime (24X7X365) *Objective 4.5: Improve processes through the use of technology and innovation* ♦ Ensure new and existing systems are web-based Reduce cost, time, and steps to complete government transactions
Functional & Technical Description:	The FACTS-FIN web-based application when fully implemented will track the grants, approval, expenditures and transfer of funds associated with the federally mandated No Child Left Behind Act. This project encompasses the analysis, design, and implementation of FACTS-FIN. Consolidated grant applications are submitted to the Department by Local Education Agencies (LEA's) to qualify for federal grant dollars. Approved grants and the grant amounts will be entered by Department personnel. Transfers In, Transfers Out, and Expenditures

will be requested by the LEA's and approved by the Department. The application will total all types—cumulative grants, cumulative unprogrammed funds, cumulative carryover, cumulative approvals, cumulative transfers in, cumulative transfers out, and cumulative expenditures.

For all parts of the consolidated application, the process will track original grants, original unprogrammed funds, original approvals, expenditures, and carryover amounts. For those parts of the consolidated application which allow transfers in and transfers out, the process will track original approvals, transfers in and transfers out, cumulative approved amounts, and expenditures.

Because these transactions are financial in nature, an audit trail will be maintained so that at any given time an actual transaction listing can be either printed out or used to reconstruct the data as of any given date. The transaction listing must include at a minimum the date of the transaction, the school system for whom the transaction is made, the transaction type, the amount of the transaction, and the part of the consolidated application to which the transaction belongs. Additionally, the transaction listing must be able to display totals for each of the transaction types—grants, unprogrammed funds, approvals, transfers in, transfers out, expenditures, and carryover.

Data Description:
1. Grant Information
   - Grant Type
   - Grant Amount
   - Grant Date
   - Grant Period

2. Approval Information
   - Approved Date
   - Approved Amount

3. Transfer Information
   - Transfer Status
   - Transfer Amount

4. Expenditure Information
   - Expenditure Amount

5. Revision Information
   - Revision Amount

Technical Description:

The architectural design will be an n-tier system approach that is consistent with the approach currently used for all Department systems. The technology involved in the implementation of the FACTS-FIN application will continue to build on the current LAN and Intranet infrastructure. Existing hardware will be utilized for this system and additional software licenses purchased, if needed, based on the estimated number of system users.

The following technologies will be utilized in the development and implementation of the system:

- Microsoft Windows NT Server 4.0 SP6 (or higher) as the host operating system for the database server.
- Oracle 8i release 8.1.6 (or higher) as the database server providing the backend database storage.
- Microsoft Windows NT Server 4.0 SP6 (or higher) as the host operating system for the web/application server.
- Microsoft Internet Information Server (IIS) 4.0 (or higher) providing the host for active server pages (ASP).
- Client systems support for Netscape 4.0 (or higher) and Microsoft Internet Explorer 5.01 (or higher).
- Visual Studio 6.0 (or higher), current Javascript standard and HTML 3.2 (or higher) for the web server development.
- Current Javascript standard and HTML 3.2 for the web client browser development.
- Secure Socket Layer (SSL) with 128-bit encryption security capability for the Internet browser to provide the functionality to encrypt and decrypt data.

Service Benefits:
The successful implementation of the FACTS-FIN will:
- Improve efficiency by automating a business process and requirements that otherwise would be done manually.
- Provide accurate and real-time information on the status of a LEA's consolidated application grant.
- Improved data consistency and integrity by utilizing relational database design.
- An interface to the SDE Directory System for easier modifications to program and program areas for the FACTS-FIN Application.
- Greater flexibility for implementing changes.

| | The financial benefits achieved from the development of this project will produce a cost avoidance by making current departmental staff more efficient on a daily basis. The FACTS-FIN application will integrate department financial functions coordinated with LEA local grant activities, utilizing entry of grant financial data through internet technology. By utilizing FACTS-FIN, Local Education Agencies (LEAs) and the department will be able to reduce both paperwork and grant activity, since LEA's will be able to file one consolidated grant application rather than a large number of individual grant applications. No increase in department revenues or reduction in expenditures has been identified at this time. | | |

Initial Costs

Cost Category	Description	Existing Costs	New Costs
Other Consulting Staff	1 Contractor as Project Manager/Business Analyst an estimated 240 hours from Analysis through Implementation at $75.00/hr.		$18,000.00
	1 Contractor as Oracle DBA an estimated 80 hours from Analysis through Implementation at $91.00/hr. This Oracle DBA already on contract with the Department.		$7,280.00
	1 Contractor as Advanced Web Developer for 200 hours from Analysis through Implementation at $70.00/hr.		$14,000.00
IS Staff	1 Project Director performing an estimated 30 hours at $42.00/hr * 1.75 overhead.	$2,205.00	
	1 Web Developer for 200 hours from Analysis through Implementation at an average $25.00/hr * 1.75 overhead.	$8,750.00	
Business Unit Staff	1 Department Staff Members performing an estimated 150 hours each User Interviews/Requirements Definition and User Testing at $17.00/hr * 1.75 Overhead rate.	$4,462.50	
	Totals:	$15,417.50	$39,280.00

Operational Costs

Cost Category	Description	Existing Costs	New Costs
Other Consulting Staff	1 Contractor as Oracle DBA for 25 hours performing on-going system support annually at $91.00/hr. This Oracle DBA is already on contract with the Department.		$2,275.00

IS Staff	1 Web Developer for 75 hours performing on-going system support annually at an average $25.00/hr * 1.75 overhead.	$3,281.25	
Business Unit Staff	1 BU staff for 75 hours performing on-going system support annually at an average $17.00/hr * 1.75 overhead.	$2,231.25	
	Totals:	$5,512.50	$2,275.00
	Total Initial (New + Existing)		$54,697.50
	Total Operational (New + Existing)		$7,787.50

Small Project

Project Number:	CA02N01
Project Name:	Distribution System
Fiscal Year:	2002-2003
Sponsor/Contact:	Lisa Cothron, Executive Director, Office of Technology and Systems Support
Priority:	Medium Note: This project was initially approved for 2000-2001 (9/1/01) but was not completed due to lack of available resources.
Agency/Division:	Technology, Department of Education
Funding Source(s): (New Initial Costs)	State Continuance
Funding Source(s): (New Operational Costs)	State Continuance
Business Goal or Objective:	The mission of the Department is to advance student success by creating and supporting a dynamic, world-class system of teaching and learning for all Tennesseans. The Department organizes its activities to identify and engender best practices, while ensuring compliance with state law and State Board rules and regulations. The Department supports its mission by fostering the use of technology as a tool for the teacher in the classroom and as the mechanism through which the Department supports Local Education Agencies, implements legislative mandates, and exchanges information with constituents. **Goal 4: Promote responsible and accountable government** **Objective *4.1: Make state government customer focused*** ♦ Allow citizens to conduct business with the state anytime (24X7X365) ***Objective 4.5: Improve processes through the use of technology and innovation*** ♦ Ensure new and existing systems are web-based ♦ Reduce cost, time, and steps to complete government transactions
Functional & Technical Description:	Previously Approved Project: This project was approved for FY 2000-2001 but was not initiated in that year due to lack of resources. Phase 1.1 of this project will encompass the assessment and analysis of the process of collecting the data necessary to perform the calculation of teacher salary rates as required for the Basic Education Program (BEP).

The project scope document will be a major project deliverable of this phase.

The Tennessee Department of Education, Office of Local Disbursements is responsible for providing teacher salary ratings based on the experience and current assignment of licensed teachers in Tennessee public schools as of December 1st each year.

The current mainframe system process for collecting and updating teaching experience and teaching assignment is very inefficient. The current process requires that the Disbursement staff collect and verify teacher experience data and assignment data from Local Education Agencies (LEAs) each school year. Teacher's experience and assignments are collected by other business units within the department for other purposes throughout the school year. However, the distribution process is the only process that must have the data as it existed on December 1st of the school year. The data must be collected and added to the teacher record on the mainframe system before salary rating calculations can begin. The objective of this system is to collect the information needed for BEP salary ratings from existing departmental systems.

Data Description:
1. Teacher Information
   - Teacher Demographics

2. License Information
   - License Type
   - Issue Date
   - Expiration Date
   - License Status

3. Experience Information
   - School Year
   - School
   - Assignment
   - Full/Part Time
   - Number of Months and Days
   - Number Supervised

Technical Description:

The information collected during the assessment and analysis of the Distribution System requirements will be used to define the best technical solution that is consistent with the Department's technology strategy. The

solution will provide a system that can be easily modified in response to changes in law, rules, regulations, and departmental policy

Service Benefits:
The Distribution System implementation will provide:
- Improved data consistency and integrity by utilizing data from other Department systems that are housed in a centralized repository.
- An interface to the Teacher Licensing System to verify teacher licensing, endorsements, and experience.
- An interface to the SDE Directory System and EIS to verify teacher current assignment information.
- Greater flexibility for implementing changes.

The financial benefits achieved from the development of this project will produce a cost avoidance by making current departmental staff more efficient on a daily basis. Department staff will no longer need to collect teaching experience for teachers currently employed in a Tennessee Public school. Local Education Agencies (LEAs) will no longer have to verify and report a teachers experience and current assignment in multiple formats to multiple business units within the Department. No increase in department revenues or reduction in expenditures has been identified at this time.

Initial Costs			
Cost Category	**Description**	**Existing Costs**	**New Costs**
Other Consulting Staff	1 Contractor performing an estimated 200 hours Assessment and Analysis at $75.00/hr.		$15,000.00
IS Staff	1 Project Manager performing an estimated 100 hours at $30.95/hr * 1.75 Overhead rate.	$5,416.25	
	1 Project Director performing an estimated 30 hours at $42.00/hr * 1.75 Overhead rate.	$2,205.00	
Business Unit Staff	3 Department Staff Members performing an estimated 100 hours each User Interviews/Requirements Definition at $17.00/hr * 1.75 Overhead rate.	$8,925.00	
	Totals:	$16,546.25	$15,000.00
Operational Costs			
Cost Category	**Description**	**Existing Costs**	**New Costs**

	Totals:		
	Total Initial (New + Existing)		$31,546.25
	Total Operational (New + Existing)		

Hardware Equipment Replacement Project

Project Number:	CA04B
Project Name:	Hardware Equipment Replacement
Fiscal Year:	2002-2003
Priority:	Medium
Division:	Technology, Department of Education
Contact:	George Perry, Director Information Technology
Funding Source(s):	State Continuance
Replacement Funding Source %	State Continuance 100%
ERF -Escrow::	
Description:	**Business Case**: Access to current information stored on file servers in the Department of Education and access to the Internet are considered a crucial part of the business operation. The Department of Education has been on a three year replacement cycle for the last three years and we are on target to maintain the three year cycle.

Impact: The majority of the desktops in the Department are on Windows NT as well as Ethernet topology. As desktops are replaced, those are being moved to Windows 2000. Due to funding constraints during the last three years, desktops are only being replaced as needed. |

Initial Costs

Quantity	Description	Unit Cost	Extended Initial Cost
125	Desktops Personal Computers	$1,005	$125,625
40	Laptop Personal computers	$1,970	$78,800
4	Network Printers	$2,784	$11,136
		Total Initial Cost:	$215,561

Hardware Equipment Replacement Project

Project Number:	CA04B
Project Name:	Hardware Equipment Replacement
Fiscal Year:	2003-2004
Priority:	Medium
Division:	Technology, Department of Education
Contact:	George Perry, Director Information Technology
Funding Source(s):	State Continuance
Replacement Funding Source %	State Continuance 100%
ERF -Escrow::	
Description:	**Business Case**: Access to current information stored on file servers in the Department of Education and access to the Internet are considered a crucial part of the business operation. The Department of Education has been on a three year replacement cycle for the last three years and we are on target to maintain the three year cycle. **Impact**: The majority of the desktops in the Department are on Windows NT as well as Ethernet topology. As desktops are replaced, those are being moved to Windows 2000. Due to funding constraints during the last three years, desktops are only being replaced as needed

Initial Costs

Quantity	Description	Unit Cost	Extended Initial Cost
125	Desktops Personal Computers	$1,005	$125,625
40	Laptop Personal computers	$1,970	$78,800
4	Network Printers	$2,784	$11,136
	Total Initial Cost:		$215,561

Hardware Equipment Replacement Project

Project Number:	CA04B
Project Name:	Hardware Equipment Replacement
Fiscal Year:	2004-2005
Priority:	Medium
Division:	Technology, Department of Education
Contact:	George Perry, Director Information Technology
Funding Source(s):	State Continuance
Replacement Funding Source %	State Continuance 100%
ERF -Escrow::	
Description:	**Business Case**: Access to current information stored on file servers in the Department of Education and access to the Internet are considered a crucial part of the business operation. The Department of Education has been on a three year replacement cycle for the last three years and we are on target to maintain the three year cycle. **Impact**: The majority of the desktops in the Department are on Windows NT as well as Ethernet topology. As desktops are replaced, those are being moved to Windows 2000. Due to funding constraints during the last three years, desktops are only being replaced as needed

Initial Costs

Quantity	Description	Unit Cost	Extended Initial Cost
100	Desktops Personal Computers	$1,005	$100,500
25	Laptop Personal computers	$1,970	$49.250
3	Network Printers	$2,784	$8,352
	Total Initial Cost:		$158,102

Chapter 6

Information Technology Disaster Recovery Plan

The Department of Education has identified three critical applications based on the following classifications for disaster recovery assessment.

Fatal: agency will be unable to complete required legal obligations or business functions if the application fails to operate. Many people would be affected, either inside and/or outside the agency. Potential liability exists.

Critical: application will continue to operate partially; some calculations will produce incorrect results. Workarounds are short-term and highly invasive until the problem is resolved.

Manageable: application will continue to operate partially and/or some calculations will produce incorrect results. However, workarounds are less invasive and could be sustained for a longer period of time.

Marginal: minor inconvenience, annoyance, or irritation. Business will continue to function.

System Backup and Platform Inventory

	Application 1	**Application 2**	**Application 3**
Application System	Teacher Certification	Education Information System (EIS)	SDE Directory
Classification	Critical	Critical	Critical
Backup Application Program Files (.exe files)	Yes - OIR Mainframe Support	Yes	Yes
Frequency of Application Program Files Backups	Weekly	Nightly	Nightly
Frequency of Data Backups	Nightly	Nightly	Nightly
Offsite Storage Frequency	Twice Daily	Nightly	Weekly
Offsite Location	Iron Mountain	Iron Mountain	Iron Mountain

Days to Recovery	7	7	7
Hardware Platform	Mainframe	NT and Unix	NT
Operating System (Version No.)	OIR Mainframe	NT 4 (Agency owned, managed, and supported); Solaris 2.6 (Two co-located servers: 1 for database; 1 for data warehouse)	NT 4 (Agency owned, managed, and supported)
Database Software (Version No.)	OIR Mainframe	Oracle 8.1.6 (8I)	Oracle 8.1.6 (8I)
Other System Software Required (Version No.)	OIR Mainframe	Crystal Reports 8.5; IIS 5.0	IIS 5.0
Recovery Instructions	Yes	No	No

Agency Self-Assessment

The Department has staff that is keenly aware of the procedures to restore severs and to recover application and/or data files. The procedures used for backup are the standards procedures defined by OIR. The procedures for recovery are not currently documented, nor have they been formally tested.

The Department is currently evaluating the impact of co-locating all production level servers at the OIR Data Center. The Department would like to take advantage of services provided at the Data Center such as increased security, redundant power supply, increases bandwidth, and operating system support.

Agency IT Disaster Recovery Goals

Goal 1: Document backup and recovery procedures for all Fatal and Critical applications.
♦ Backup and recovery procedures will be documented.
♦ Recovery procedures will be tested for a selected application.

Goal 2: Evaluate impact of co-locating production servers at the OIR Data Center.
♦ Identify all software and custom applications running on production web server and database servers.
♦ Define tasks and resources needed to co-locate production servers.